## **Exhibit A**Technical Exhibit

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### LEHIGH VALLEY PUBLIC TELECOMMUNICATIONS CORPORATION

**BETHLEHEM, PA** 

LICENSEE OF

WLVT-TV/DT

**ALLENTOWN, PENNSYLVANIA** 

FCC Facility ID #36989

FCC FILE No. BLEDT-20030131AEW

ENGINEERING EXHIBIT IN SUPPORT OF A

PETITION FOR RECONSIDERATION IN MM DOCKET 87-268

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# ENGINEERING EXHIBIT IN SUPPORT OF A PETITION FOR RECONSIDERATION IN MM DOCKET 87-268

This Engineering Exhibit has been prepared for Lehigh Valley Public Telecommunications Corporation ("LEHIGH") in support of a Petition for Reconsideration ("PETITION") in MM Docket 87-268 regarding the post transition facilities proposed by the Commission for WLVT-DT.

#### BACKGROUND

LEHIGH operates public television stations WLVT-TV on Channel 39 and companion public digital public television station WLVT-DT on Channel 62. LEHIGH has elected to return to its analog channel post transition and has received a covering license (BLEDT-20030131AEW) covering the facilities proposed in a Construction Permit (BPEDT-19990902AAE) on Channel 62. The constructed facility is located on an adjoining tower to that utilized by WLVT-TV and initially proposed for WLVT-DT in MM Docket 87-268.

The Docket 87-268 allotted facilities were 50 kW at 302 meters HAAT with a somewhat directional pattern (FCC antenna rep\_PAALLENTOWN\_62). The constructed facilities on out of core Channel 62 were 47.7 kW with a more directional antenna (Antenna ID 27819) and situated on the available tower, based on available aperture, 8 meters lower in HAAT or 294 meters. The constructed facilities met the requirement of covering at least 80% of the allotted Channel 62 facilities and thus LEHIGH is eligible to transfer the allotted facilities back to Channel 39, its present analog channel.

In the 7<sup>th</sup> R&O and 8<sup>th</sup> FNPRM in Docket 87-268 in Appendix B, the Commission proposed that WLVT-DT, on Channel 39, would be authorized an ERP of 50 kW at 302 meters on the presently licensed analog tower with a directional antenna pattern very nearly circular as shown in FCC antenna ID 74699<sup>1</sup>.

LEHIGH plans to locate the final DTV facilities of WLVT-DT on the structure and at the height (294 meters HAAT) currently licensed for WLVT-DT on Channel 62 with an omni-directional or nearly omni-directional antenna within the limits of UHF TV transmitting antenna current technology. As such, while the resultant WLVT-DT, Channel 39 parameters as listed in Appendix B more than duplicate the existing WLVT-DT Channel 62 presently licensed coverage when taking into account the differences in the digital protected contour for each channel<sup>2</sup>, the lower HAAT results in a coverage area for the 41.11 dBu contour of 16,950 square kilometers while the allotted facilities cover 17,359 square kilometers neglecting interference.

In order to duplicate the Appendix B proposed Channel 39 coverage of WLVT-DT at its presently licensed site, the ERP at the licensed site must be increased 1 dB to 63 kW from that proposed in Appendix B of the 7<sup>th</sup> R&O. As shown in Figure 2, utilizing 63 kW ERP at the presently licensed HAAT of 294 meters results in a nearly identical 41.11 dBu contour plot for both cases.

A Longley-Rice study was commissioned by this office to determine the extent of any additional caused interference, but due to the fact that the public CDBS was

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<sup>&</sup>lt;sup>1</sup> The tabulated directional pattern of 74699 is identical to that of the original rep\_PAALLENTOWN\_62 pattern.

pattern.

The protected contour for Channel 62 is the F(50,90) 42.85 dBu while for Channel 39 it is the F(50,90) 41.11 dBu.

unavailable over a portion of the weekend and upon advice received by AFCCE from FCC MB staff, LEHIGH reserves the right to submit a Longley-Rice when it is received.

Respectfully submitted,

Larry H. Will, P.E.

26 October 2007

